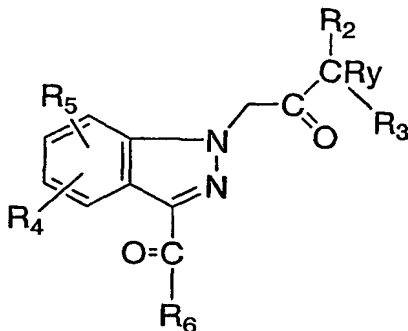


WHAT IS CLAIMED IS:

1. A compound of the structural formula I:



Formula I

or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof:

wherein,

R represents hydrogen, or C₁₋₆ alkyl;

10 RY represents H, or C₁₋₆ alkyl;

R_w represents H, C₁₋₆ alkyl, -C(O)C₁₋₆ alkyl, -C(O)OC₁₋₆ alkyl, -SO₂N(R)₂, -SO₂C₁₋₆ alkyl, -SO₂C₆₋₁₀ aryl, NO₂, CN or -C(O)N(R)₂;

R₂ represents hydrogen, C₁₋₁₀ alkyl, OH, C₂₋₆ alkenyl, -(CH₂)_nO(CH₂)_mOR, -(CH₂)_nC₁₋₆ alkoxy, -(CH₂)_nC₃₋₈ cycloalkyl, -(CH₂)_nC₃₋₁₀ heterocyclyl, or -(CH₂)_nC₆₋₁₀ aryl, said alkyl,

15 heterocyclyl, or aryl optionally substituted with 1-3 groups selected from R^a;

R₃ represents hydrogen, C₁₋₁₀ alkyl, -(CH₂)_nC₃₋₈ cycloalkyl, -(CH₂)_nC₃₋₁₀ heterocyclyl, -(CH₂)_nCOOR, -(CH₂)_nC₆₋₁₀ aryl, nitro, cyano or halogen, said alkyl, heterocyclyl, or aryl optionally substituted with 1-3 groups of R^a;

20 R₄ and R₅ independently represent hydrogen, C₁₋₆ alkoxy, OH, C₁₋₆ alkyl, COOR, SO_qC₁₋₆ alkyl, COC₁₋₆ alkyl, SO₃H, -O(CH₂)_nN(R)₂, -O(CH₂)_nCO₂R, -OPO(OH)₂, CF₃, OCF₃ - N(R)₂, nitro, cyano, C₁₋₆ alkylamino, or halogen; and

25 R₆ represents hydrogen, C₁₋₁₀ alkyl, -(CH₂)_nC₆₋₁₀ aryl, -(CH₂)_nC₃₋₁₀ heterocyclyl, -(CH₂)_nC₃₋₈ cycloalkyl, said aryl, heterocyclyl and alkyl optionally substituted with 1-3 groups selected from R^a, wherein the R^a(s) can be attached to any carbon atom or heteroatom selected from N and S;

R₈ represents -(CH₂)_nC₃₋₈ cycloalkyl, -(CH₂)_n 3-10 heterocyclyl, C₁₋₆ alkoxy or -(CH₂)_nC₅₋₁₀ heteroaryl, -(CH₂)_nC₆₋₁₀ aryl said heterocyclyl, aryl or heteroaryl optionally substituted with 1-3 groups selected from R^a;

- 5 R^a represents F, Cl, Br, I, CF₃, N(R)₂, NO₂, CN, -O-, -COR₈, -CONHR₈, -CON(R₈)₂, -O(CH₂)_nCOOR, -NH(CH₂)_nOR, -COOR, -OCF₃, CF₂CH₂OR, -NHCOR, -SO₂R, -SO₂NR₂, -SR, (C₁-C₆ alkyl)O-, -(CH₂)_nO(CH₂)_mOR, -(CH₂)_nC₁₋₆ alkoxy, (aryl)O-, -(CH₂)_nOH, (C₁-C₆ alkyl)S(O)_m-, H₂N-C(NH)-, (C₁-C₆ alkyl)C(O)-, (C₁-C₆ alkyl)OC(O)NH-, -(C₁-C₆ alkyl)NR_w(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₁-C₆ alkyl)O(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₁-C₆ alkyl)S(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₁-C₆ alkyl)-C₃₋₁₀ heterocyclyl-R_w, -(CH₂)_n-Z¹-C(=Z²)N(R)₂, -(C₂₋₆ alkenyl)NR_w(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₂₋₆ alkenyl)O(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₂₋₆ alkenyl)S(CH₂)_nC₃₋₁₀ heterocyclyl-R_w, -(C₂₋₆ alkenyl)-C₃₋₁₀ heterocyclyl-R_w, -(C₂₋₆ alkenyl)-Z¹-C(=Z²)N(R)₂, -(CH₂)_nSO₂R, -(CH₂)_nSO₃H, -(CH₂)_nPO(OR)₂, C₃₋₁₀cycloalkyl, C₆₋₁₀ aryl, C₃₋₁₀ heterocyclyl, C₂₋₆ alkenyl, and C₁-C₁₀ alkyl, said alkyl, alkenyl, alkoxy, heterocyclyl and aryl optionally substituted with 1-3 groups selected from C₁-C₆ alkyl, halogen, (CH₂)_nOH, CN, NO₂, CON(R)₂ and COOR;

Z¹ and Z² independently represents NR_w, O, CH₂, or S;

m is 0-3;

n is 0-3 and

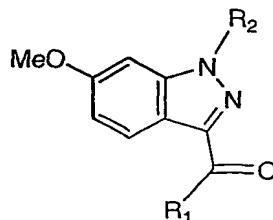
- 20 q is 0-2.

2. The compound according to claim 1 wherein R₆ is C₁₋₁₀ alkyl, or (CH₂)_nC₃₋₈ cycloalkyl and R_y is C₁₋₆ alkyl, said alkyl, optionally substituted with 1 to 3 groups of R^a.

3. The compound according to claim 1 wherein R₂ is C₁₋₁₀ alkyl or - (CH₂)_nC₃₋₈ cycloalkyl and R₃ is C₁₋₁₀ alkyl, or (CH₂)_nC₃₋₁₀ heterocyclyl, said heterocyclyl and alkyl optionally substituted with 1 to 3 groups of R^a.

4. A compound which is:

Table 1



R1	R2
<p> $x = \text{CH}, \text{N}$ $p = 0-1;$ $n = 0-3$ </p>	
$-\overset{\zeta}{\text{S}}-(\text{CH}_2)_n\text{OH}$ $n = 0-3$	

or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

5 5. A method for treating ocular hypertension or glaucoma comprising administration to a patient in need of such treatment a therapeutically effective amount of a compound of structural formula I of claim 1.

10 6. A method for treating macular edema, macular degeneration, increasing retinal and optic nerve head blood velocity, increasing retinal and optic nerve oxygen tension, and/or a neuroprotective effect comprising administration to a patient in need of such treatment a pharmaceutically effective amount of a compound of claim 1; or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

15 7. A method of preventing repolarization or hyperpolarization of a mammalian cell containing potassium channel or a method of treating Alzheimer's Disease, depression, cognitive disorders, and/or arrhythmia disorders in a patient in need thereof comprising administering a pharmaceutically effective amount of a compound according to Claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

20 8. A method of treating diabetes in a patient in need thereof comprising administering a pharmaceutically effective amount of a compound according to claim 1, or a pharmaceutically acceptable salt, enantiomer, diastereomer or mixture thereof.

25 9. A composition comprising a compound of formula I of claim 1 and a pharmaceutically acceptable carrier.

 10. The composition according to Claim 9 wherein the compound of formula I is applied as a topical formulation, said topical formulation administered as a solution or suspension and optionally containing xanthan gum or gellan gum.

30 11. A composition according to claim 9 wherein an active ingredient belonging to the group consisting of: β -adrenergic blocking agent, parasympatho-mimetic agent, sympathomimetic agent, carbonic anhydrase inhibitor, EP4 agonist, a prostaglandin or derivative thereof, hypotensive lipid, neuroprotectant, and/or 5-HT2 receptor agonist is optionally added.

12. A composition according to claim 11 wherein the β -adrenergic blocking agent is timolol, betaxolol, levobetaxolol, carteolol, or levobunolol; the parasympathomimetic agent is pilocarpine; the sympathomimetic agent is epinephrine, brimonidine, iopidine, clonidine, or para-aminoclonidine, the carbonic anhydrase inhibitor is dorzolamide, acetazolamide, 5 metazolamide or brinzolamide; the prostaglandin is latanoprost, travaprost, unoprostone, rescula, or S1033, the hypotensive lipid is lumigan, the neuroprotectant is eliprodil, R-eliprodil or memantine; and the 5-HT₂ receptor agonist is 1-(2-aminopropyl)-3-methyl-1H-imidazol-6-ol fumarate or 2-(3-chloro-6-methoxy-indazol-1-yl)-1-methyl-ethylamine.